St. Bartholomew's Hospital Journal.

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St. Bartholomew's Hospital Journal,

NOVEMBER 14th, 1894.

"Æquam memento rebus in arduis
Servare mentem."—*Horace*, Book ii, Ode iii.

IN this issue we call special attention to the remarks in the paper on Diphtheria with regard to the importance of bacteriological examination in cases where the antitoxine treatment is adopted.

Every week the medical journals contain reports of cases treated with antitoxine, and in reading them one cannot fail to be struck by two important points. In the first place, by the rarity of bacteriological confirmation of the diagnosis, and in the second place by the rarity of reports of cases unimproved by the antitoxine treatment. Reflection upon these two points brings home to one the extreme wideness of the source of possible error in forming an opinion of the value of the treatment upon such reports.

The increasing prevalence of diphtheria and its high rate of mortality, and above all the frequent inefficacy of means used in its treatment, render it incumbent upon the medical profession to investigate with all possible care any method which promises to increase their power over so terrible a disease; this being the case, we most heartily endorse Mr. Horne's remarks as to the importance and feasibility of a routine bacteriological diagnosis of all cases admitted to Radcliffe.

We feel, in common with every Bart.'s man, justly proud of a Hospital which has always been in the front rank of the fight against disease in every shape, and which has already won great glory and distinction in the fight; but we cannot, even if we would, blind ourselves to the fact that at the present time the fight is raging with increasing fury. It behoves us, if we wish to maintain St. Bartholomew's in its right position in the scientific world, to be dissatisfied with all laurels already won, and to lose no opportunity that arises of attacking disease, in whatever form it may present itself.

We think that Radcliffe with its large number of cases offers an opportunity which should not be lost sight of for investigating the antitoxine treatment, and for the compilation of statistics which, as far as human capability can make them, would be absolutely reliable. Such statistics would be of no inconsiderable value, and we trust that at an early date their construction may be rendered possible.

Some months ago we commented upon the advantages which would accrue from the establishment of a "Clinical Laboratory" at the Hospital, in view of the increasing importance of scientific investigation in connection with the diagnosis and treatment of disease. We again emphasise the remarks we made then. These questions are, however, really only branches of the great subject of post-graduate work. It is obviously unreasonable to expect that much can be done towards the advancement of medical knowledge by men still in their student days, and we cannot help feeling that the invitation to do post-graduate work at the Hospital is none too tempting. In regard to this we have, in common with all the London schools, much that we might learn with advantage from the German methods.

If one goes "round the wards," one is regarded as somewhat of an intruder; and unless one is content with a place in the "back row," one is looked upon as meanly robbing some student of his chance of getting his daily bread—in other words, his diploma.

In the laboratories, although we admit that the arrange-

ments and accommodation have lately undergone an immense improvement, there is still much to be desired.

We draw attention to the fact that this year, although the number of student entries at the London schools shows a falling off, our own numbers show an increase on last year, and we again easily head the list. This is as it should be, but if we wish to maintain this position amongst the other schools we must see that our students are placed under conditions which compare favorably with those of all other schools. Under this head, facilities for post-graduate work represent an important item, and should receive every consideration from the authorities of the Medical School.

IN our last issue we gave a list of the papers which were to be read before the Abernethian Society during the present session. On glancing down the list, one's attention is drawn at once to the fact that no single paper is being read, even by a member of the Junior Staff, still less by a student; in fact, that the Society has become a "Lecture Society," and discussion is dying out. This condition of things may have its advantages, but we question whether they are not far outweighed by the disadvantages. We should be glad to hear the views of students upon this point, and will willingly place our "Correspondence Column" at the disposal of any who may wish to express them.

On the Advancement of Knowledge by the Scientific Study of Diseases in Medical and Surgical Practice.

By Sir JAMES PAGET, F.R.C.S., F.R.S.,
Consulting Surgeon to the Hospital.

WHEN the Committee were so good as to invite me to give an opening address at the beginning of this Session, I hesitated till I remembered that it was just sixty years since I became a member of the Abernethian Society, and made my first communication to it. Remembering this, and some of the pleasures and advantages which I had derived from the Society, I felt bound to assent to the request of the Committee. And I could be sure that I could at least present a very rare case; for, though a few have lived or are still living as long or even longer after their election into the Society, I do not think that anyone has till now communicated a paper of any kind at both the beginning and the end of a period of sixty years. This is my case: but I do not invite a careful study of it; it might tell to my disadvantage.

It is very interesting to remember what I can of the condition of this Society and of the hospital and school sixty years ago, but I will not now tell of them. It would be a great temptation to become merely talkative, and I told what I could of them a few years ago in an Address given in this Society, and printed, I think, in the Hospital Reports. I will now rather look forward and offer some considerations for the advancement of knowledge by the scientific study of diseases in medical and surgical practice, especially in private practice.

It is often said or implied that, in our profession, a man cannot be both practical and scientific; science and practice seem to some people to be incompatible. Each man, they say, must devote himself to the one or the other. The like of this has long been said, and it is sheer nonsense; there always have been examples in disproof of it, men in active practice, and some even in very large practice, making admirable scientific researches in the study of their cases; and there never were more or better than there are now. I doubt whether there is any important truth in pathology to the knowledge of which clinical study has not contributed; and we may fully hope that examples of such scientific work by men in practice will become much more common now that all students have to begin their professional work by real practical studies in the sciences having nearest relation to medicine and surgery. In the study of these sciences they may not only learn many things of great importance for their later studies and for practice, including the use of the best methods and instruments for scientific research, but in the laboratories they may see and hear more plainly and directly than they can in the wards the best methods of scientific inquiry, the value of repeated tests, the value of constant searching and looking for new things. They may thus, and by their associations, acquire more than they can in other parts of their studies of what may be called the scientific temper—the love of searching for facts unknown, the love of observation and of constant watching for truths.

This scientific temper has been notable in all those practitioners who have done well in the advancement of our knowledge. It is really, in one sense, more important for research than is the possession of scientific knowledge. Of course, as a man grows older and is more occupied in practice he cannot keep on a level with the progress of other sciences, each of which is being studied by men who can devote their whole time to it; and he may be unable to work with every newly invented instrument. The more he can maintain himself in the progress of knowledge and of methods of study in the allied and more nearly precise sciences, the better it will be for him, both in practice and in study: but he can always maintain the scientific temper; he can always continue in the love of research, and of accurate record and consideration of carefully observed facts.

It may seem that I take a very narrow and rather humiliating view of scientific study in the practice of our profession when I thus speak of little more than the collection of facts. It is difficult to define what should be called scientific study, seeing that we should have to make the definition appropriate to subjects so wide apart as are political economy, systematic zoology, and pure mathematics; but I think it sure that in the present condition of medical science, and for those who are engaged in practice, the best helps to the progress of accurate knowledge will be in the constant search and record of facts.

I suppose that it may be generally held that the difficulty of ascertaining general laws in any branch of natural science depends chiefly on the degree in which the objects of study in that science are variable, either in themselves or in the conditions in which they exist. And surely the number of variables, if I may so express myself, is in no natural science greater than in human pathology. It is often said by practitioners, and truly said, that no two cases are alike; no two persons are alike even when in health; no two faces, no two skulls, no two thumbs; and detectives, whom we ought in some things to imitate more nearly than we do, are making good use of this knowledge. Similarly, we may be sure that no two persons' livers are alike, no two lungs, no two kidneys; and if they be unlike in health, they are probably yet more so when they are diseased, and yet more when under the influence of medicines. Surely, when we consider these things, these accumulated variables, we may justly believe it impossible to gain new and accurate pathological knowledge without gathering facts from every source, and by every available method. The temptation to make deductions from our facts, or to learn from them any general law, need not be resisted, but we had better not rely on any such deduction or law unless it has been repeatedly tested by fresh observations, and by all the methods that doubt can suggest. Our motto had better be in that admirable sentence of John Hunter, "Don't think, try; be patient; be accurate." For most of us, the best use of deductions is in the suggestions which they may supply for further researches. The whole history of the medical sciences would illustrate this.

If it should be asked, where, in ordinary practice, are any new and important facts to be found? I think a just answer might be, "Everywhere:" if only they be searched for by careful and patient observation, by constant watching and testing of whatever seems unusual. This seems proved by the fact that not a year passes in which we do not find that someone has discovered important truths which, when they are made known to us, it is plain that we and our predecessors had overlooked, though they were as well within our range for observation as they were within that of him by whom they were discovered. It is well to remember that the history of discoveries is also a history of oversights; at least, in our own profession we may often say that the praise which one man justly earns by a discovery is a fair measure of the blame deserved by those of his contemporaries whose opportunities of research were equal to his own. Few being so old as myself have more often deserved this blame.

Let me illustrate this by one of the many instances I could tell;

and I will choose one which may also be useful as showing how facts well observed in practice may be very important in the advancement of physiology—an evidence that science and practice, far from being incompatible, may really be, and always should strive to be, mutually helpful.

Myxœdema is now a well-known disease; few practitioners have not seen a case of it; yet it is only twenty years since Sir William Gull first carefully observed and described it; first observed it, I think, in his private practice, and described it as "a cretinoid state supervening in adult life in women." It had been overlooked, or at least had never been described, by any of the hundreds of practitioners who had seen cases of it before he did, but mark now what followed. Dr. Ord and Dr. Fagge observed the relations between myxœdema and the defects and diseases of the thyroid gland, observed them in both hospital and private practice; then, with the advance of surgery, came operations for the removal of the thyroid gland, and these, it was observed, were generally followed by myxœdema; and then, together with repeated confirmations of what had already been observed in practice, there came what at first might be called physiological test-experiments, by transplanting into the myxœdematous portions of healthy thyroid gland, and then by giving them food consisting of portions of healthy gland or of extracts of its juice. It has been found, also, that in the absence or incapacity of the chief thyroid, its work may be done by small accessory glands of similar structure which may chance to lie near it, and examples of which have now been traced far more exactly than they were before, especially along the line extending from the isthmus to the hyoid bone and the adjoining part of the base of the tongue.

A result of these happily co-operating clinical and physiological studies is that, whereas some twenty years ago it might justly be said that the physiology of the thyroid gland, its use and influence in the economy, were unknown, we now know that it produces a material which passes from it into the blood and is essential to health and the healthy condition of other structures, especially of those in which myxœdema and changes allied with it ensue. And we may deem it sure that we have not yet seen nearly all the good influence which these combined studies of the thyroid gland will have on our knowledge of other organs, whether in health or in disease. They have supplied the best knowledge yet of how one organ affects many or all others, not only, as Treviranus alleged, by what it takes from the blood for its own maintenance, but by what it returns to the blood from its own refuse or secretion. I venture to guess that some such good influence will be found in the continued study of what seems to be some relation between acromegaly and disease of the pituitary body. Is there in it anything like the relation between myxœdema and the defects of the thyroid?

And now I should like to suggest to those who are or will become practitioners some good subjects of inquiry; but really whoever has the mind for patient, watchful search may well choose for himself any such things as are plainly within his range of opportunity; but, whether he has made a choice or not, he should be always on the watch for new things. The history of discoveries in biological science shows a large proportion of cases in which the first observation was made by what we call "chance," and certainly in the practice of our profession there are so many such chances that anyone may rely on having many more than he will use well.

By such constant looking out more "new diseases" may be discovered, and the continued study of any of them may become as widely important as that of myxœdema. I do not say that all the diseases which have been so called were certainly new, any more than any land when recently occupied by a colony can be deemed a new country, though often called so. I think we may be nearly sure that in all the varying conditions of life, and in the intermingling of families and races, diseases may arise such as have not been before, and may justly be deemed new; but, whether they be new or old, we may be sure that there are forms of disease which we are overlooking—seeing, but not observing. A practitioner constantly watching for these, watching after the manner of a scientific naturalist, and using every opportunity that "chance" may offer, will discern some of these, and of the combinations and variations of diseases which have not yet been studied; and the knowledge thus gained may bring great help to pathology and to the utility of our work.

There are, I think, special advantages in private practice for the study of what may be called "mixed diseases." I have often spoken of them, and wrote on them long ago in my 'Clinical Essays'; but there is much more to be made out concerning them. They are evident enough in some instances—as, for example, in the differences between the manifestations of tertiary syphilis when it affects one who is gouty or one who is tuberculous. Quite plainly the characters of the disease derived by infection are modified by the conditions due to the other diseases with which it becomes associated, whether these diseases be due to inheritance or to any other source.

There must be many instances of this mingling of two or more diseases in the same person which have not yet, so far as I know, been observed or described. Among them must be some in which the same person inherits two or more diseases or two or more special liabilities to disease. We speak, without doubt, of diseases being transmitted by inheritance, such as cancer, tuberculosis, gout, rheumatic arthritis, neurosis, and many more; but what happens when more than one is transmitted,—as, say, when one parent is tuberculous, the other cancerous; or one tuberculous, the other gouty? Would one exclude the other, or be in any way antagonistic, as cancer and tuberculosis in their acute forms seem to be? Or would the result be some disease, or some liability to disease, showing a combination of two or more inheritances? I think we do not know: and I believe there are no opportunities for learning so good as those which private practitioners with scientific minds may have; for there are none who can learn or see so well as they can what are really the different diseases that are likely to be transmitted together in different intermarrying families, or the diseases that may exclude one another.

And here let me say that the characters of mingled diseases may best be studied in private practice, because in all probability they will be ascertained by differences in large naked-eye and tangible characters long before they will be by any minute microscopic or chemical characters. They may, in this respect, be compared with cross-breeds in plants or animals, for the recognition of each of which, so far as I know, not even the most minute investigation has discovered characters so marked or so sure as those which are evident to the unaided eye. I think we may do well to keep this always in mind in all our clinical studies. I do not doubt that differences of external shape and other large characters are connected with and probably dependent on differences in molecular constitution; but these molecular differences are not discernible by any chemical or microscopical power as yet in our possession.

The personal knowledge of families during one or more generations may be well used in the study of many other questions relating to inheritance of diseases or susceptibilities of diseases. We have, I think, few if any records of the negatives in these cases; but we need records such as these in order to know the probability that anyone of the offspring of a diseased progenitor will have the same disease. Here, as in many other instances—as, for example, in the study of infectious diseases—we are apt to deduce too much from the positive records, and to think that because a disease has been sometimes transmitted in this or that way, therefore it always will be. We want records of the cases, often very numerous, in which it has not been.

Another, and a very different subject which can be duly studied only by practitioners, whether in hospital or private practice, is the use of reputed remedies for diseases. Of all these, whatever may seem the reasonable probabilities of their value, the final and only sure test must be in practice. And the test must be applied with extreme care, repeatedly if possible, and with a mind very hard to convince, and ready after any appearance of benefit derived from a medicine to ask, "What would have happened if it had not been given?"

This kind of scepticism was never more necessary than now, when, on what are stated as scientific grounds, foods and medicines of all kinds are being constantly invented, or, it is sometimes said, discovered. Now such statements had better never be relied on till they have been tested in practice, and found true by practitioners with scientific minds, watchful, accurate, and far more ready to doubt than to believe till they have gained decisive facts.

And I venture to say that practitioners may usefully thus study the effects, not only of new medicines, but of some old ones now commonly neglected. I do not believe that our predecessors, shrewd and keenly observant men as some of them were, were always wrong in their beliefs in the value of some of the medicines now set aside. Their errors were probably in diagnosis; they did not discuss the differences among several forms of what seemed the same disease, and the medicine which was useful for one form was useless for the others. Let me illustrate this by an instance which much impressed me many years ago. Mercury given in small doses for many days or weeks was then deemed generally effective in the treatment of paraplegia. Certainly it cured many cases; but as certainly it was useless in many more, and it might have been put aside but for the discovery that, as we now know well enough, some of the diseases of the spinal cord are due to syphilis. This was, I think, among the first, if not the first, of the observations of the syphilitic diseases of internal organs; and for these alone was mercury remedial, and for these mercury was not only a remedy, but a diagnostic test.

We cannot too carefully remember cases such as this, especially

when we are hearing of medicines which are said to be "sometimes useful" in this or that disease. The greater part of what some are fond of calling the fallacies of medicines are really fallacies of diagnosis; and it will be good work for anyone who is studying the influence of any medicine in a succession of cases of any disease, when he finds that it has a definite influence on some of the cases, and no influence or a different one on others, then at once to study whether he has not really been watching examples of two or more different diseases or combinations of diseases, among which the medicine has been a distinctive test. We may be nearly sure that many medicines may really be tests of diseases, just as mercury, iodide of potassium, and quinine are.

Let me suggest a case for inquiry of this kind. Cases are not rare in which patients, not seriously unhealthy, suffer from a long succession of boils; and there are at least three medicines which have, or used to have, repute for curing this disease: Liquor Potassæ, quinine, and yeast. I have tried all these, and I think that each of them has cured cases on which the others had no such influence. But I have never been able to discern the other differences between the cases. I think that the influence of quinine has been on cases connected with long-abiding effects of malaria, and that of potash on cases associated with eczema and perhaps with gout, and that of yeast on cases with no evident relation to these or other diseases, especially none connected with glycosuria. But I am not nearly sure on these points. I suggest the scientific study of them in practice. The truth will be discerned by someone more patient and observant than I was.

I spoke of watching for chances of finding out new things, and they may occur in some places where they might least be expected. I suppose that few things can be named of which so large a proportion are erroneous as are popular beliefs in medical subjects; yet it may be well to remember that it was by inquiry into the grounds of such a belief that Jenner was led to the discovery of vaccination. Similarly, the value of cinchona bark for the remedy of malarial diseases was due to the study of the reasons for a popular belief in Peru; and I think it was by similar inquiries that the value of vegetable food for the prevention of scurvy was made sure.

In thus speaking of scientific work that can be done best or only by men of scientific mind and accurate observers in the practice of our profession, I hope I may not seem to estimate too lowly the work that has been done by those who are engaged in sciences allied to the medical. So far am I from this that I regard the facts and laws discerned in these sciences as having been essential to the progress of pathology to its present state, and as sure to be constantly increasing in good influence in the future. No more striking example could be given of the necessity of combinations in practical and in scientific study than is in the result of the splendid researches of Pasteur combined with those of Jenner. But we may safely hold that no one method of research is or will be sufficient for the due advancement in the knowledge of pathology that has to be gained. Every method of biological study must be used, and the workers in each must use all the help that they can get from those in the others. All must be mutually helpful, mutually critical. It may do more good than harm if every one will maintain that his own range and method of study are the best of all, especially if he will try to prove this by the results of his own work. I wish it were more common than it is among us who are in practice to do this. We are too ready to be discontented with our opportunities for research, and to neglect them. It is, I know, very hard to resist the wish that we could work in the method which is yielding the most brilliant results—as, at present, in bacteriology or advanced organic chemistry; but the best total results will be gained if each of us will be always doing his best in the range in which he has best opportunities, and so that the results of the studies by the bedside and in the laboratory may be mutually tested. That which the practitioner believes that he can observe had better be considered doubtful if it is plainly inconsistent with the knowledge of the physiologist or the chemist or other good scientist; and, similarly, many of the beliefs concerning pathology which are derived from chemistry or physics, or even physiology, may justly be doubted by pathologists and practitioners unless they have been studied and approved by competent observers of their own class. No one method of studying the living body in all its various conditions in health and disease can be alone sufficient. Let every one who is studying it or any part of it in any accurate method do his best in that method, and let all act as partners; each may be, within his own range, a "predominant partner," but none may be despotic. The more closely all can keep in touch the better it will be for all; and I venture to say that if ever an estimate can be made of the shares contributed by each group of good workers to the advancement of all pathological or even biological knowledge, including the prevention and remedy of diseases, the share of the scientific workers in practice will be among the largest.

And now I will only add that the habit of scientific watching and searching, of which I have been speaking, is essential to the best and truest success in practice to which each, within his own range of opportunity, can attain; for it is essential to accuracy of diagnosis, and to a right judgment of the effects of treatment and of the daily variations of disease. We often hear of someone having detected in a case something which others had failed to find, and he is justly praised for it. It usually means that he detected it by using his sight or some other sense more keenly than they did; and it may well suggest that he was in the habit of being thus keen in the search after things not easy to be found. In all our scientific researches, in all our practice, we need the mind of the detective; and I believe we may boast that the writer by whom the love and power of detecting have been described better than by anyone, Dr. Conan Doyle, is one of our own calling, and first studied it when he saw it exercised in practice. Well, good detectives are always on the watch; so should we be: there are unknown facts all round us; why should we leave them for others to discern?

Notes on Aseptic Surgery.

BY C. B. LOCKWOOD, F.R.C.S.,
Assistant Surgeon to the Hospital.

(*Continued from page* 5.)

IN the previous number *Staphylococcus pyogenes-aureus* was described. We now proceed with an organism equally important, the *Streptococcus pyogenes.* At the same time the methods of staining which dressers or clerks ought to be able to practise without difficulty will be mentioned, also how to make cover-glass preparations. These are so simple and satisfactory that it is to be hoped that every one may be incited to attempt them in future more often than at present.

The name *Streptococcus* was given by Ogston to this species of coccus because of the chains in which it grows. In suitable media, such as sterilised broth, the chains attain their full dimensions, and in those of young and vigorous cultures I have counted upwards of two hundred cocci linked together in a tortuous chain. More commonly a chain contains from five to ten elements. The average size of the cocci is about 1 μ, but in the midst of the long chains some may be seen which are twice as big, and which are called arthrospores. In the centre of some of the arthrospores I have seen small, round, shining bodies which appeared to be spores. I have never seen arthrospores in the *Streptococci* in pus or in the tissues; only in those growing in culture media. When we come to disinfection, spores will be of great importance.

To obtain a pure culture of *Streptococcus pyogenes* it is often sufficient to inoculate the pus of an acute inflammatory process into gelatine or broth. A case of cellulitis is the most favorable because, as Ogston long ago observed, the *Streptococcus* is peculiarly associated with that condition. The finest chains which I have grown in broth came from a pelvic cellulitis. The growth on gelatine is very typical; no liquefaction occurs. An almost imperceptible growth advances over the surface. It consists of minute greyish-white and almost transparent colonies, with abrupt and undulating edges. These colonies have hardly any tendency

to spread, their growth soon ceases, and they remain about 1 mm. in diameter. Inoculated by puncture into the depths of the gelatine similar colonies appear, free oxygen not being essential for the growth of *Streptococcus pyogenes*. In broth the *Streptococcus pyogenes* grows with great luxuriance in delicate cloudy flakes, which deposit at the bottom and upon the walls of the test-tube. It also grows in agar-agar, sterilised milk, urine, and other nutrient media. It peptonises white of egg or meat when grown upon either of them in a vacuum.

Cultures of *Streptococcus pyogenes* soon lose their virulence and die. After three weeks or a month they are useless for inoculation into most animals. Apparently the *Streptococcus pyogenes* is most virulent in its action upon man. At the seat of inoculation it causes acute inflammation and suppuration, and has a marked tendency to invade the lymph paths and cellular tissue, causing lymphangitis, cellulitis, and erysipelatoid wound gangrene (Ogston). In these respects it differs from *Staphylococcus aureus*, which is more prone to act locally and cause acute inflammation and suppuration, with sloughing and inflammatory wound gangrene. We might expect that the *Streptococcus* would insinuate itself more easily into lymph paths than *Staphylococci*, which grow in dense immobile masses. When the *Streptococcus pyogenes* in its journey along the lymphatics reaches the lymphatic glands it sets up suppurative adenitis. Far too often it enters the circulation and causes septicæmia and pyæmia. I have found *Streptococci* in incredible numbers in the walls of pyæmic abscesses and in their pus. They are also common in the renal infarcts which accompany pyæmia, and after these infarcts have suppurated are found alive in urine. In Senn's summary of the work of Rosenbach, Pawlowsky, Besser, and Shüller, *Streptococci* were found thirty-nine times in sixty-nine cases of pyæmia, *Staphylococci* in twenty-three, both together in five, and *Staphylococcus aureus* alone in four. The blood, pus, and fluids of the tissues were examined.

The presence of *Streptococci* in the urine is obviously of great diagnostic value, and very easy to ascertain. To find them it is only necessary to dry a drop of the urinary sediment upon a cover-slip and stain it with carbol-fuchsin. It is a moot point whether an abscess in the kidneys always precedes the passage of bacteria. It is possible that other lesions may suffice, and perhaps the normal kidneys may, as Ogston and Cohnheim supposed, excrete bacteria. Dr. Sherrington* has recently written a most valuable monograph upon this subject.

The urine gives early evidence of the entrance of bacteria into the circulation, but this valuable aid to diagnosis is usually neglected. The urine which contains bacteria may betray nothing to the eye, and have the usual acid reaction. As a rule a faint cloud of albumen, such as is usually ascribed to pyrexia, is precipitated from it by heat. There is no difficulty in seeing the bacteria in cover-glass preparations made from the sediment. By this method I have observed *Streptococcus pyogenes* in the urine in pyæmia, *Staphylococci* in severe cellulitis of the leg, and various cocci and bacilli in perforative peritonitis. Only a few hours is required after infection for the passage of the bacteria through the kidneys.

Ogston and others have assumed that the appearance of bacteria in the urine betokened an effort upon the part of the kidneys to excrete them. However, at present the weight of evidence seems to be in favour of the view that their passage is always associated with some injury to the blood-vessels or tubules of the kidneys.*

The kidneys of those who die of acute septic affections may appear normal to the naked eye, but the microscope usually reveals patches of acute disseminated nephritis such as are described by Ziegler.† Often small abscesses can be seen, and not infrequently infarcts. Sometimes I have by Gram's method found capillary bacterial infarcts in kidneys which to the eye and ordinary histological methods seemed normal. The method used by Canon for demonstrating the influenza bacillus in blood is still more valuable, but rather complicated.

The bacteria in urine are often alive and capable of being separated by plate cultures. They are few in number and probably attenuated. I have failed to cause suppuration in rabbits with subcutaneous injections of urine containing pyogenic cocci.

Rosenbach, von Eiselsberg,‡ Canon, and others have found *Streptococci* in the blood in cases of traumatic fever, pyæmia, and septicæmia. The blood may be obtained by pricking the finger after thorough disinfection. I have been accustomed to wash the finger with hot water and soap, scrub with a nail-brush, soak with carbolic acid lotion 1—20, or perchloride of mercury lotion 1 in 1000, and remove them with absolute alcohol. Working at chronic pyæmia and hectic fever my results were always negative. Occasionally *Staphylococcus albus* grew, but this is such a constant inhabitant of the skin that one felt distrustful. However, bacteria of any kind are exceedingly hard to find in chronic mycoses. The investigation of the blood is much neglected, even in cases in which it would be harmless and cause no distress.

The number of diseases in which *Streptococci* have been seen is considerable. Amongst them are such closely allied conditions as erysipelas, cellulitis, abscess, peritonitis, pericarditis, endocarditis, puerperal fever, pelvic cellulitis, suppurative diseases of the ears and teeth, pyæmia, and septicæmia; also in pneumonia, scarlet fever, diphtheria, intestinal catarrh, acute disseminated nephritis, and in the

* "Experiments on the Escape of Bacteria with the Secretions," *Journal of Pathology*, vol. i, p. 258, February, 1893.

* C. S. Sherrington, *loc. cit.*

† *A Text-book of Pathological Anatomy and Pathogenesis*, translated by D. Macalister, 1886, Part II, p. 51.

‡ "Beiträge zur Lehre von den Mikro-organismen im Blute fiebenden Verletzen, in geschlossenen Korper höhlen, und in verschiedenen Sekreten," von Eiselsberg, *Wiener medizinische Wochenschrift*, 1886, p. 133. This paper gives a number of references.

diseases of some of the domestic animals,* particularly equine pneumonia. Of late it has frequently been found in acute suppurative periostitis (or acute necrosis). A few years ago the *Staphylococcus aureus* was considered the sole cause of that disease, but now quite a number of pyogenic bacteria have been observed.

Sternberg says that Rosenbach in thirty-nine cases of acute pus formation found *Streptococcus pyogenes* alone in fifteen, and associated with *Staphylococci* in five. Passet in thirty-three similar cases obtained *Streptococcus pyogenes* alone in eight, and associated with *Staphylococci* in two.

Streptococci are often found in pyæmic arthritis and in suppurative arthritis. In the case of a youth who died of pyæmia following the amputation of his arm for a printing machine accident, I found *Streptococci* in the pus of the knee and ankle. At the same time his urine was full of *Streptococci*. *Streptococci* were found in another case of acute arthritis of the knee. The joint had been infected from a suppuration about the upper epiphysis of the tibia. *Streptococci* were also found in the urine of an infant with endocarditis. The seat of inoculation was an ulcer near the anus.

In the fluid of septic meningitis caused by middle ear disease I found chains of cocci along with many kinds of bacilli. However, Dr. Kanthack's† work at this subject shows that *Streptococcus pyogenes* is rare in middle ear disease, whilst *Staphylococcus aureus*, *Staphylococcus albus*, *Pneumococci*, and *Bacilli* are common.

The *Streptococcus pyogenes* fulfils the requirements laid down by Henle and Koch, and which were mentioned in the previous number. When young and virulent cultures are inoculated into the skin of the ears of rabbits it causes an erysipelatous blush, with suppuration at the point of inoculation. Injected into the cellular tissue, it often produces a diffuse suppurative inflammation, or, in other words, acute cellulitis. Injected into the joints or serous sacs, acute suppurative arthritis, or acute peritonitis or pericarditis, and so forth, are set up. Injected into the blood-stream, it often causes septicæmia or pyæmia. In these the smaller vessels are plugged with *Streptococcus* emboli. If the animal lives long enough these end in abscesses. Hardened in spirit and stained by Gram's method, the organs which contain these emboli afford beautiful histological specimens.

Wysokowitsch ascertained that if the aortic valves were injured before an intra-venous injection of *Streptococci* an acute endocarditis was the result. Rabbits are not easily killed with *Streptococci*, but mice and guinea-pigs are very susceptible, and die rapidly after inoculation with minimal doses. My own observations tend to show that *Streptococcus pyogenes* is most pathogenic for mankind, and especially for children; it is the cause of many of the fatal endings in cases of sepsis after operations. I am referring mainly to investigations made upon the tissues. It is to be remembered that *Streptococci* are so easy to stain, and their chains are such striking objects, that they are not easily overlooked. An exaggerated idea of their frequency in diseased tissues might easily be acquired. Other organisms which are harder to stain, and which are less conspicuous, may oftentimes have escaped notice. Nevertheless in some of my cases these latter may have been the actual cause of the disease, the *Streptococci* being mere accidental accompaniments.

Of late it has been endeavoured* to show that there are two main morphological groups of *Streptococci*, namely, the *Streptococcus longus* and *brevis*. These are characterised by the different lengths of their chains and by their action. *Streptococcus brevis* does no harm to animals, whilst *Streptococcus longus* is deadly for mice, and kills rabbits and guinea-pigs. Perhaps I may add that the short chain variety makes the broth in which it is grown turbid, but the long chain leaves it clear. Further, the latter is said to grow invisibly upon potato. Welch† has been unable to confirm these observations.

Perhaps the separation of the *Streptococci* into *longus* and *brevis* is artificial. I have myself often observed that the luxuriance of the chains depended upon the media and the age of the cultures. They were short in gelatine and agar-agar, but long in broth. In old cultures, too, the chains seemed to be broken up into short pieces.

There is experimental ground for supposing that animals can be protected against the action of virulent *Streptococcus longus*. This has been accomplished by injecting them with the blood of animals which had themselves been rendered immune by repeated inoculations with attenuated cultures of *Streptococci*.‡ It was in a manner similar to this that Tizzoni and Cattani produced immunity against the bacillus of tetanus.§ Remembering how often *Streptococci* cause traumatic infection, these observations throw an interesting light upon the safety which anatomists and pathologists enjoy from pyæmia and septicæmia.‖ They also help to explain the rapid healing which occurs after amputations for prolonged suppurative arthritis.

A fact of some importance bears upon the general identity of the *Streptococci* found in a diversity of diseased conditions. It has been found that an animal which has been rendered immune against the *Streptococcus* which is most virulent for it is also protected against all other kinds.¶

* See an admirable paper by v. Lingelsheim, "Experimentelle Untersuchungen über morphologische, kulturelle, und pathogene Eigenschaften Verschiedener Streptokokken," *Zeitschrift für Hygiene*, vol. x, 1891, p. 331, *et seq.*

† "The Bacteriology of some Inflammatory Processes of the Middle Ear and Mastoid Cells," *Archives of Otology*, vol. xix, No. 1, 1890.

* Lingelsheim, *loc. cit.*

† "Conditions underlying the Infection of Wounds," *The American Journal of the Medical Sciences*, November, 1891.

‡ "Untersuchungserzebnisse betreffend den Streptococcus longus," *Centralblatt für Bakteriologie und Parasitenkunde*, Behring, vol. xii, 1892, p. 195.

§ *Centralblatt für Bakteriologie und Parasitenkunde*, Band ix, p. 189, *et seq.*

‖ Sir James Paget, *Clinical Lectures and Essays*, 1875, p. 323.

¶ Behring, *loc. cit.*, p. 195.

Now *Streptococci* are so fatal for mice that this is a very remarkable achievement, scarcely less noteworthy, as Behring says, than the protection of guinea-pigs against diphtheria. The protection of horses against *Streptococcus pneumoniæ* would be of great economic value if it became an established fact. Military horses are very prone to that disease.

The *Streptococcus* of erysipelas resembles that of suppuration so closely in appearance and growth, and possibly in effects, that Cornil and Babes, Sternberg, and others think they are identical. Like the *Streptococcus pyogenes*, the *Streptococcus* of erysipelas grows along the lymph paths and affects the lymphatic glands. It also causes suppuration when introduced into cellular tissues. In a case of death from erysipelas I found *Streptococci* in the heart's blood. The *Streptococcus* of erysipelas is found best at the margin where the redness is spreading; it also occurs in the serum of the bullæ. It fulfils the necessary requirements of Henle and Koch. Fehleisen obtained cultures of it by inoculating media with a piece of the skin from the spreading margin of the erysipelas. With cultures propagated from them he caused erysipelas in patients with cancer and tubercle, having observed that erysipelas has a curative effect upon those diseases. The *Streptococcus* of erysipelas has been found in pus, blood, clothing, upon the skin, in the mouth, nose, and other orifices (Sternberg). Von Eiselsberg found it in the air of Billroth's wards, and Emmerich in the air of the dissecting-room.

(*To be continued.*)

The Study of Physiology from its Medical Aspect.

By H. MORLEY FLETCHER, M.A., M.D.Cantab., M.R.C.P.,
Casualty Physician and Assistant Demonstrator of Physiology.

THE object of the present paper is to deal with the subject of Physiology from its medical aspect, and to show that it is one if not the most important subject in the development and progress of scientific medicine.

In the midst of the heavy routine work which has to be gone through in the second year of medical study, the question often arises, and only naturally, as to what solid advantage can accrue in return for the labour and effort demanded from the student in order to acquire the examination standard in Physiology.

It might be urged that too much pressure is put on the student with regard to this particular branch, and also that with each year the amount and quality of physiological knowledge demanded is ever on the increase.

First let us consider what is the object aimed at in the study of physiology as a science. Professor Foster expresses it as follows:—"That it is to ascertain how it is that living substance can do what dead substance cannot, can renew its substance and replenish the energy which it is continually losing, and can, according to the nature of its surroundings, vary not only the amount, but also the kind of energy which it sets free." Expressed more simply, it may be said to be an inquiry into the actions of the body, and the manner in which these actions are brought about (Huxley).

As a necessary outcome of this it is obvious that careful examination must be made into the minute structure of the tissues and organs of the body, and thus histology becomes an integral though subordinate part of physiology as a whole.

So before entering the wards and studying the phenomena of disordered function or pathology, the student must necessarily make himself thoroughly familiar with the standard or healthy organism.

The importance of this preliminary study is thus so evident, and may later become of such utility, that it is a matter of regret that it should be so frequently regarded as one of the subjects which have to be "got up" chiefly for examination purposes. So far is physiology from being merely an examination subject that often men have cause to regret, when engaged in actual ward work, that they have not spent more thought and time over this subject, and they discover that the symptoms of disease form a bewildering puzzle, owing to their ignorance of the processes taking place in the healthy organism. They then find, but often too late, that physiology was not intended to be, even in part, a mere mental exercise to be gone through, and then put on one side. A simple example may perhaps show my meaning better. How often a clinical clerk finds that he has totally forgotten or has never fully understood the mechanical principles of the circulation and general facts with regard to blood-pressure. As a result of this, when he comes to examine cases of heart disease, after spending weeks it may be in trying to make out and piece together the information he acquires from examination of a patient, he finds himself in consequence quite at a loss to explain intelligently the sequence of events which are taking place in the heart, lungs, and other organs. Happy is he if he has the humility to return to his text-books and retrace the steps he formerly so imperfectly trod.

Physiology is one of those subjects which it is extremely difficult to cram up. Many students have already, and I fear many more will in the future, find this to be the case. Until a man begins to exercise his own reasoning powers, and to follow step by step the various stages by which our knowledge on the subject has been acquired, he loses what might be one of the most valuable portions of his training. He should assume the point of view of a man working at original research—every step to be followed through and every fact verified as far as possible in his practical work in the laboratory.

Physiology and medicine in the past have run on nearly parallel lines. Progress in the one is generally attended by progress in the other, now one, now the other forging to the

front. Facts discovered or theories promulgated in physiology later become adopted and applied in medicine. Putting this briefly, the Physiology of the present becomes the Medicine of the future. The moral to be deduced from this is, that because the practical bearing on medicine of a physiological fact is not at present obvious, neglect or ignorance of that fact are none the less inexcusable.

To illustrate this, a few years ago the (zymogen) granules met with in secretory cells of various glands, such as the salivary and peptic glands and the pancreas, though known to be the active principle or ferment of the secretion, had no direct bearing on clinical medicine. Quite recently, somewhat similar granules in leucocytes have been shown to be probably connected with the production of immunity from disease. In septic diseases granules have been observed to be discharged from (secreted by) leucocytes, and to paralyse bacteria present in the blood. Ehrlich has pertinently spoken of these leucocytes as unicellular glands.

The slow and gradual emergence of medicine from pure empiricism, and its progress towards rationalism, are largely due to physiological research. Many of the drugs employed in the treatment of disease are still used quite empirically, though in gradually diminishing number. For instance, the revolution which is impending in medicine for the treatment of specific diseases by their respective antitoxines, of which diphtheria and tetanus are such striking examples, is the outcome of logical experimental work conducted on physiological lines.

Let us now turn to histology. The study of the minute structure of the organs and tissues of the body often presents great difficulty to the student. At first this is because he is unpractised in the use of the microscope, and finds it no easy matter to make out the essential features. Now it is obviously of extreme importance that the structure of tissues in the normal condition should be thoroughly learned before that of diseased tissues, otherwise the student will be on very insecure ground when he attempts to grasp the simplest facts of pathological histology. In spite of this, histology is often regarded by students as a subject chiefly required for examination purposes. It is impossible to urge too strongly that this is not the case.

One of the most valuable aids to the progress and understanding of the microscopical structure of a tissue is to draw it as seen under the microscope. This should be an invariable rule, and its value soon becomes apparent to the student himself. At first drawing under the microscope is to many not only irksome but extremely difficult, but the knack —for it is only this—is soon acquired. A rough drawing made by the observer himself impresses itself more on his memory than the finished and elaborate plates in our modern text-books. One of the chief reasons for this is that it diminishes the chances of self-deception, for it is difficult to draw even roughly an organ, the structure of which has not properly been observed.

Again, seemingly small points in histology must not be overlooked or thought unimportant. Take, for instance, the pancreas. Its structure had been apparently made out years ago, and also its function, that of secreting a fluid which causes digestion of various food-stuffs. If the secretion be conducted from the gland without passing into the intestine, animals still continue to live; but it was found if the gland itself were removed, the condition known as diabetes mellitus resulted. If a small portion of the gland, however, be left, diabetes does not result. It has been shown that in addition to the ordinary secreting portions of the gland, there are to be found small scattered groups or masses of cells, abundantly vascular, which are not in connection with the ducts. These parts of the gland are connected, in all probability, not with the elaboration of digestive ferments, but by their activity preserve the equilibrium of the economy, so that their complete removal leads to disturbance of carbo-hydrate metabolism, diabetes mellitus resulting. The moral again is the importance of minute anatomy or histology.

Histology has been shown to be a subject of the greatest importance. It deals with minute anatomy, and logically perhaps belongs to gross human anatomy. Its details are so minute and so intimately connected with function or physiology proper, that it forms a connecting link between the two divisions of human biology—anatomy and physiology.

In conclusion attention might be drawn to the educational value of physiology as a science, and here a comparison with its rival anatomy is almost inevitable. Anatomy may be compared to the geography, physiology to the political life of a country. Physiology exercises the reasoning, and to some extent the imaginative powers of the mind, whereas anatomy develops and strengthens the memory and habits of rigid exactitude, while in both the importance of accuracy of observation can hardly be exaggerated.

Diphtheria and the New Remedy.

By WALTER JOBSON HORNE, M.A., M.B., B.C.,
Late House Physician.

WITHIN recent years, perhaps, there is no chapter in medicine which through a better understanding of the disease has had to be more completely rewritten than that on diphtheria. Yet the returns made by the Metropolitan Asylums Board have shown a steadily increasing number of cases. It may be urged that this increase is in some way the outcome of modern sanitary legislation; but even if that is so, there are still the figures of the Registrar-General to be reckoned with; these show a rise in the mortality in London from diphtheria still more striking. Previous to 1888 the mortality in London from diphtheria had not exceeded 1000 in any single year; by 1892 the mortality was doubled; and by 1893 it was more than trebled, and for the first half of the present year it has already reached close upon 1400, and promises to be, by the end of December, not far behind that for last year.

These figures painfully bring home to us the fact that hitherto the means of prevention and treatment have not marched in line with an increased knowledge of the disease. This cannot be attributed to a lack of enterprise in advocating and trying new remedies. The drugs

that have been vaunted as specifics are numberless, the number itself condemning their efficiency. We know that mild uncomplicated cases of diphtheria are within control, and that good nursing and sound general treatment have been of more service than local or specific remedies. But we also know, and know only too well, the class of cases which swells the mortality bill of diphtheria—cases of quite small children in which the disease attacks all the upper air-passages, spreads to the trachea, and perhaps to the bronchi; these are cases in which the remedies hitherto tried have been of little or no avail, many being unscientific in their principles, and some almost barbarous in their application,—tracheotomy itself often being looked to to do little more than anticipate the comforts of death.

It is with these wretchedly bad cases we have to deal in Radcliffe Ward, and this the statistics of the ward for the past two years go to show. The total mortality in the ward has been just under 50 per cent. of the admissions. But then more than 55 per cent. of the cases admitted have called for tracheotomy, and deaths from these alone constitute more than two thirds of the total mortality.

Radcliffe may, therefore, be regarded as a fair field for testing the value of antitoxine; and if it can be shown by carefully analysed statistics that the serum treatment reduces the mortality, then in antitoxine we have a remedy the value of which it would be difficult to overrate.

The value of antitoxine is at present an uncertain quantity; and in order to arrive at its true value we require not only carefully tabulated clinical observations, so that it may be possible to compare like with like, but also, whenever it is practicable and justifiable, a bacteriological confirmation of the diagnosis.

The importance of this will be readily seen when we bear in mind the difficulty there often is in the diagnosis. The presumptive evidence in favour of diphtheria in any given case may be strong, and for clinical purposes sufficient, but for diagnostic purposes one may not be able to go farther than say that if the case is not one of diphtheria, then one does not know what it can be; and this is about the truth, for in the absence of a bacteriological examination one does not know. For statistical purposes cases not bacteriologically diagnosed can be classed only amongst the "suspected."

There need be no difficulty in adding a bacteriological diagnosis to the cases admitted to the hospital. Notice might be sent to the pathological laboratory as soon as a case is admitted to Radcliffe, so that a bacterioscopic investigation could be made within a few hours of admission. For cases that are admitted during hours when the laboratory is closed, tubes could be kept ready in the ward which the house physician could inoculate, to be worked up subsequently in the pathological laboratory.

Antitoxine was used in the treatment of the three following cases, which were in Radcliffe Ward during August and September under the care of Dr. Church and Dr. Brunton, and with their kind permission are quoted; not that taken by themselves they can be of any great statistical value, yet there are points which may be of interest. Through the ready co-operation of the pathological laboratory a bacterioscopic investigation was made in two, but in the other it was not considered justifiable. The extent and severity of the disease varied, as will be seen, from a straightforward case of faucial diphtheria to one complicated with tracheotomy.

The first case was that of a rather anæmic but well-grown schoolgirl, aged nine, who was admitted on the evening of August 26th with a history of having been in good health up to the previous day, when she complained of not feeling well, and in the evening of a sore throat. On the day of admission there had been shivering, muscular pains about the hips, and vomiting.

When first seen, which was within thirty-six hours of the onset of the symptoms, the tonsils were swollen, and covering the surface of the left and extending on to the adjacent soft palate was a patch of membrane. The right tonsil, the uvula, and pharynx were free from membrane. There was no indication of the larynx or nose being involved; the respirations were 36, and quiet. The submaxillary glands could be felt to be enlarged. The pulse was 124, regular, and of fair strength, but the first sound of the heart at the impulse was not pure. The temperature was 102°. The knee-jerks were present, but not very readily elicited. There was no rash nor erythema of skin; the urine 1022, and contained a trace of albumen.

On admission ten minims of antitoxine were injected. The child steadily—in fact, rapidly—improved; the temperature fell, by midday on the 28th (within thirty-six hours of the injection) it was subnormal, and remained so for several days. The pulse rate fell to 96, and the respirations to 24.

The condition of the throat during the first twenty-four hours showed but little change; there was no diminution of the membrane, perhaps it had a little increased, but no fresh seat was attacked. Tubes were inoculated, and subsequently yielded the Klebs-Loeffler bacillus. There was no diarrhœa, rather a tendency to constipation.

The child's general health continued to improve. After the 28th the membrane gradually melted away, and by September 1st no trace was left. The albumen detected on admission disappeared for the following nine days, and then reappeared for a week.

By September 14th the child was fully convalescent. The knee-jerks showed increased activity. No signs of paresis subsequently developed. No toxic symptoms, either local or general, followed the injection. The child made a good recovery.

The second case was that of a fat and well-developed boy of a year and nine months, who was admitted also on the evening of August 26th with a history of being well previous to August 24th, when the mother noticed a running from the nose, and that the child was hoarse and croupy, symptoms which the following day became more marked, and on the 26th the child became alarmingly distressed and was brought to the hospital.

When first seen the child was obviously ill, restless, of a dusky pallor, and looked poisoned. There was some discharge from the nose, but very slight excoriation about the anterior nares. The breathing was greatly distressed, respirations 28, shallow and stridulous, with a brassy cough; considerable recession of the lower third of the sternum and adjacent intercostal spaces, with deficient air-entry at the bases. The pulse was 132, of only moderate strength. The heart-sounds were natural. There was no rash. Temperature on admission was 98·4°. The fauces were reddened and œdematous, with a patch of membrane on right tonsil, none on left nor on soft palate, uvula, or pharyngeal wall. The submaxillary glands were slightly enlarged. The urine contained a trace of albumen. The child's condition gave the impression that tracheotomy was imminent.

On admission three and a half minims of antitoxine were injected. Hot fomentations were applied to the neck and throat, and a steam kettle was used. The child quickly responded to treatment, slept well, the dyspnœa decreased, and became marked only when the child was disturbed for food.

August 27th.—The temperature continued subnormal during the first twenty-four hours. Pulse rate fell from 132 to 100, and respirations from 28 to 20. The laryngeal symptoms considerably subsided, and the child's aspect was brighter.

August 28th.—Temperature to-day rose to 99·2°, but fell again to subnormal, where it remained. Urine still contained a trace of albumen.

By August 30th (seventh day of disease) the albumen had disappeared, and did not reappear. The child rapidly convalesced, and went home on September 19th without any evidence of sequelæ.

It was in this case that no bacteriological diagnosis was made.

The third case was more severe. It was that of a well-grown boy aged three, who was admitted at 11.30 on the morning of September 23rd. He had been ailing since the 19th, when the mother noticed that "the child coughed as though he had croup." The child's breathing became more and more difficult, and he was brought to the hospital considerably distressed on the fourth day of the disease. When seen the child was a bad colour, with a poisoned aspect. The respirations were 36, stridulous; voice husky, almost aphonic. There was considerable dyspnœa and marked recession of the lower two thirds of the sternum and of the intercostal and supra-sternal spaces. The pulse was 124 and feeble. Temperature 100·2°, rising to 101·6°. The nose was free. The fauces were dusky and livid, with flakes of membrane on both tonsils, uvula, soft palate, and pharynx. The knee-jerks were present, but not very active. The urine was 1025, and contained a cloud of albumen.

Within a quarter of an hour of admission fifteen minims of antitoxine were injected. By midday the child had become more restless and distressed, and had a sharp attack of dyspnœa, relieved momentarily by oxygen and strychnine. Another and more severe attack of dyspnœa soon followed, and the trachea was speedily opened by Mr. Martin Jones. At the operation a mere shred only of membrane was coughed up, but in the course of the day some more was coughed up, and cultures made from this yielded the Klebs-Loeffler bacillus. On September 24th the temperature fell to 98·2°, but in the course of the day rose again to 101·6°. Pulse varied from 144 to 158. The child took well by mouth, and the nasal feeding, at first necessary, was discontinued.

September 25th, the seventh day of disease and second after the operation, the tube was left out for an hour. The temperature reached the normal, and remained subnormal; more membrane was coughed up.

September 26th.—The tube was taken out at 9 a.m., and left out for five and a half hours. The throat had partially cleared; there

was still some membrane on both tonsils, but none on uvula, soft palate, or pharynx. Some more was coughed up from trachea.

By September 27th the fauces had completely cleared. The tube was taken out (fourth day after operation), and it was not necessary to replace it. The child convalesced well, and by October 7th the tracheal wound had closed, and child was breathing naturally through the larynx. The urine was free from albumen, and there was no evidence of paralysis.

October 13th.—The knee-jerks showed increased activity. Child made a good recovery.

From the foregoing account it can be seen that these three cases varied in severity. The first and the third were proved in the pathological laboratory to be diphtheria. In the second case an examination, as has been said, was not permissible, and it is to be regretted that it was not permissible. The child so rapidly improved from what appeared on admission to be a serious condition threatening tracheotomy, that subsequently one almost doubted the original diagnosis. It was, in fact, one of the class of cases referred to in which the presumptive evidence in favour of diphtheria is strong. In the absence of a bacteriological confirmation it can now be classed only amongst the "suspected."

It will be noticed that the amount of antitoxine used also varied. In the first case ten, in the second three and a half, and in the third fifteen minims were injected. Dosages below these usually advised. The small amount used in the first two cases is accounted for by the supply at the end of August having run out, and it was not until the third case came under treatment towards the end of September that a fresh supply was obtainable. However, the improvement that so rapidly followed the treatment continued, and a repetition of the dose was not called for.

Inasmuch as the strength of the serum supplied at different times may have varied, and the dosage is not calculated for individual samples, it must unfortunately remain an open question whether the strength of the first solution was considerably above that of the second, and whether the small injections used were responsible for the results that followed. The scanty supply of the first solution prevented control experiments being made. The injections were made with a sterilised syringe deeply into the muscles in the gluteal region, the skin about the seat of puncture being previously cleansed with a carbolic lotion, and subsequently covered with isinglass plaster. No pustule nor local irritation followed.

The treatment was commenced as soon as possible—in fact, within an hour of the patient being seen, and in the first case within thirty-six hours, in the second within forty-eight hours, and in the third within four days of the onset of the symptoms. The treatment adopted, besides that of the serum, was mainly directed towards maintaining and improving the general strength, and was not vigorous excepting in the tracheotomy case.

Now as regards some of the effects of the treatment, or rather the changes that followed, and first of all the local changes.

The faucial membrane showed no naked-eye change within the first twenty-four hours. It certainly had not diminished; in the first case it had perhaps slightly increased, and one might expect that the immediately adjacent zone of tissue already attacked by the bacillus would show membrane.

After the first twenty-four hours the membrane began to disappear from the fauces, but it was not observed to shrivel up and come away in masses; it gradually melted away. As regards laryngeal and tracheal membrane, if in the second case the symptoms of laryngeal obstruction which so speedily subsided within twelve hours were due to membrane, then changes here probably followed sooner.

It may be that the serum acts more readily on membrane in the larynx and trachea than on the fauces, and this is a point of no small importance with reference to intubation. Intubation, which has hitherto been rather neglected, may now become more widely practised. In the case in question had laryngeal relief been momentarily wanted intubation would no doubt have been sufficient.

Where the temperature was raised on admission it reached normal within twelve hours; the pulse-rate also fell, but the normal was not so soon reached. Albumen was present in the urine in all three cases when first seen; it diminished early in the disease. There was no diarrhœa.

No evidence of paralysis developed whilst the cases were under observation; but the knee-jerks, as has already been noted, were increased in the first and third cases during convalescence.

The general health of these patients from the very first rapidly improved, and this was perhaps the most noticeable feature; the children became brighter and more cheerful, the disease certainly seemed to lose its malignant character at an earlier period.

Has antitoxine any toxic properties? Toxic symptoms at present recorded have been so very slight that they may almost be disregarded. An urticaria has not infrequently been met with as a sequela. No urticaria or rash was seen in the cases quoted, and in considering toxic effects it must be borne in mind that in some epidemics of diphtheria rashes and eruptions are not infrequently met with.

The question of toxic effects is important; their absence will not only encourage us to use the serum with impunity in all cases pending a bacterioscopic investigation, thereby using it to the greatest advantage and affording protection to any case admitted to a diphtheria ward that may subsequently be disproved to be diphtheria; but it will also encourage the use of the serum for affording immunity to healthy subjects. Immunisation is easy—cure much more difficult. Immunity might be offered to nurses, house physicians, and others in attendance in Radcliffe—a temporary protection which would, no doubt, be readily accepted by those whose intelligence enables them to appreciate it.

In looking back upon these three cases a question that naturally suggests itself is, How would these children have fared without the antitoxine? The first case, in all probability, would have recovered, although perhaps not so rapidly. But was the antitoxine the means of staving off tracheotomy in the second case, or of bringing it to a successful issue in the third? The answers to these questions are not readily found, and it would be idle to speculate over them. It would be equally idle to speculate over what will be the final verdict upon the serum treatment of diphtheria. At present we know that it is only too often we have to approach the disease with a sense of helplessness, and knowing this we ought not to permit ourselves to doubt the value of the new remedy. We ought to give it a fair trial. When we have before us the carefully analysed statistics of a sufficient number of proved cases in which the remedy has been put severely to the test, then we shall be in a position to pronounce upon the commercial commodity we are dealing with.

Notes.

THE ENTRY of new students to St. Bartholomew's has been very satisfactory. Amongst the London schools we again take our proper place as head of the list in the number of new students. The number of new students is 193, distributed as follows:

Full entries	119
Special entries, including qualified practitioners	34
Entries to the D. P. H. course of laboratory work	14
Dental students	2
Preliminary Scientific Class	24
	193

* * *

THESE FIGURES compare very well with last year, when there entered 156 new students, of whom 95 were full entries and 61 special entries, including the Preliminary Scientific Class. Taking the whole of the London schools, there is a marked falling off in the number of full students, the total for London being this year 552, as against 598 last year. It is, therefore, the more gratifying to find our own entry increased this year.

* * *

WE understand that over 140 "freshmen" have entered on the study of medicine at Cambridge University this year.

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THE STATISTICS of the total number of candidates and percentage of passes at the various examinations of the Royal College of Surgeons, which were reported at the last

Council meeting, are of general interest to students, and we reproduce them here:

	Number of Candidates.	*Percentage of Passes.*
First F.R.C.S.	160	38
Final F.R.C.S.	99	54
First Conjoint (5 years' regulations):		
Chemistry	497	57
Pharmacy	197	70
Biology	486	67
Elementary Anatomy	467	86
Second Conjoint (4 years' regulations):		
Anatomy	722	60
Physiology	762	57
Second Conjoint (5 years' regulations):		
Anatomy and Physiology	89	66
Third Conjoint:		
Medicine	869	56
Surgery	843	57
Midwifery	859	67

* * *

A MEETING of the Medical School Committee was held on Saturday, October 27th, 1894, in the library of the Medical School, for the purpose of the presentation of the Medals, Prizes, and Certificates which have been won during the past year by the Scholars and Prize Students. Dr. Church occupied the chair, and the scholars were presented to him by Mr. Bowlby. Dr. Church congratulated the Students on their success, and presented the Medals, Books, Instruments, and Certificates to them in turn with a few appropriate words to each. From what Dr. Church said it appears that the question is likely shortly to be considered of substituting for the private gathering now held a more public ceremony, at which all the Students, with their friends, may have an opportunity of attending. We hope that this proposal may another year become a fact.

* * *

ON October 18th Dr. Lauder Brunton, F.R.S., delivered the Harveian Oration at the Royal College of Physicians. Dr. Brunton first referred in graceful terms to the work of the late President, Sir Andrew Clark, to his writings and his influence on the medical profession in general. He then spoke of the presentation by the College of the Moxon Medal to Sir William Jenner, in recognition of his labours as a clinician. Then followed an admirable oration on Harvey and the modern developments of his work. He quoted frequently from Harvey's book, 'De Motu Cordis,' pointing out how, amongst other matters, he knew of the sounds of the heart, although the practice of auscultation was not introduced till much later by Laennec. After dealing with the mechanism of the circulation, Dr. Brunton spoke of the vaso-motor apparatus and the nervous mechanism of the regulation of the supply of blood to the viscera, the nervous and muscular systems. Valuable remarks were made on the effects of muscular overwork on the heart, and the principles of treatment of cardiac disease. After a reference to modern therapeutic methods Dr. Brunton exhorted his hearers to follow Harvey's example, and to search out the secrets of nature by way of experiment, and to direct their attention to fields of research which at present receive but little attention.

AT University College Hospital the house surgeons and house physicians have hitherto been required to pay the Hospital for their board. We understand that at a meeting of the House Committee of the Hospital on October 31st it was decided that this should be discontinued at the end of this year. We believe that now St. Bartholomew's will be the only hospital in London, to which a medical school is attached, where the Resident Staff are put to any expense in providing their own board.

* * *

WE hear that Sir George Humphry, M.D., Professor of Surgery at Cambridge, has resigned the position of Senior Surgeon to the Addenbrooke's Hospital, Cambridge. Sir George's letter of resignation was accompanied by a donation of £500 to the hospital for the purpose of improving the accommodation in the Surgical Out-patient Department. Sir George has been associated with the Hospital for fifty-two years, and the Governors have now appointed him Consulting Surgeon.

* * *

WE hear that Mr. W. J. Walsham is now engaged on a large and exhaustive treatise on "Deformities of the Human Foot." It is to be published by Ballière, Tindall, and Cox. Though from its nature Mr. Walsham can hardly expect it to rival in popularity his so widely read "Theory and Practice of Surgery," yet we have no doubt but that it will prove a valuable addition to Surgical Literature.

* * *

RUMOUR says also that a new edition of Mr. Howard Marsh's work on "Diseases of the Joints" will appear shortly.

* * *

WE hear that Mr. R. D. Metcalfe, Mus. Bac., who so ably conducted the Summer Concert in the Great Hall, has again offered to conduct the practices of the Musical Society through the winter. We congratulate the Musical Society on their good fortune, and at the same time tender our thanks to Mr. Metcalfe, on behalf of the Hospital, for his kindness and the interest he takes in the welfare of the Society.

* * *

WE are asked to publish the following notice of the "Guild of St. Barnabas":

A religious society for students of all hospitals has quite recently come into existence, under the name of the Guild of St. Barnabas.

It makes its appeal to medical students who are communicants of the Church of England, and offers them the support and strength of association with men of like faith and mind, together with the spiritual help of a monthly meeting for prayer and religious instruction, addressed to the special needs of students.

Information concerning the Guild and the conditions of membership may be had on application to R. A. Walter, Esq., 14, Woburn Square, W.C.; or to Rev. E. F. Russell, 35, Brooke Street, Holborn, E.C.

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WE regret that, owing to want of space, we are compelled to hold over several papers accepted for this issue, together with "Correspondence." They will, however, appear in the December number.

Amalgamated Clubs.

NEW MEMBERS.

SINCE the date of the last issue of the JOURNAL the following have joined the Amalgamated Clubs:

J. H. Wood.	A. W. Dickson.
H. P. Margetts.	H. E. G. Boyle.
F. W. Broadbent.	J. C. Newman.
H. C. Harrison.	R. F. Hearn.

ST. BARTHOLOMEW'S HOSPITAL BOXING CLUB.

AT a meeting of the above Club the following officers were elected:

President.—H. T. Butlin, F.R.C.S.

Vice-Presidents.—W. H. H. Jessop, F.R.C.S.; A. N. Weir, F.R.C.S.

Committee.—T. Martin, G. R. Baker, A. J. Andrew, A. Hawkins.

Hon. Secs.—C. G. Meade, J. W. Hughes.

The Club Room is in St. Bartholomew's School (key at Mr. Harrison's, 8, Bartholomew House, Red Lion Passage, E.C., close to Little Britain). The club days are Monday, Wednesday, Thursday, and Friday, from 3 to 6.30.

Alec Roberts (Instructor of the Belsize B. C.) attends every Friday from 4.15 to 6.

This season bids fair to become a successful one judging by the attendance on club days. We are glad to see there are some boxers amongst the "freshers." The Annual Boxing Competition will probably be held some time during March.

RUGBY FOOTBALL CLUB.

THE Rugby Club has every prospect of a good season. Three practice games have been played, in all of which a great deal of keenness has been displayed both by the senior men and "freshers." Among the latter some useful material for both teams has been discovered.

As far as can be seen at present there will be a great competition for places in the team, and if men only continue as keen as they are at present the much-coveted Rugby cup may soon be seen in its proper place on the library table.

On October 6th the first fifteen played the Civil Service on our ground at Wormwood Scrubbs. The game was of an even character till close on time, when the better training of the Civil Service men began to tell, and they managed to score a try which they failed to convert, thus beating us by the narrow margin of three points.

Team.—H. Bond (back); J. W. Nunn, A. Hawkins, C. A. S. Ridout (three quarters); H. Burrows, F. E. Everington (half); P. O. Andrew (captain), H. M. Cruddas, J. C. S. Dunn, F. G. Richards, W. J. Codrington, J. W. Hughes, G. A. Auden, A. L. Ormerod, W. M. James (forwards).

On October 13th the first fifteen journeyed to Sandhurst to oppose the R. M. C., and suffered defeat by five goals and three tries (thirty-four points) to *nil.*

At first our team held their own, although they were deprived early in the game of the services of Burrows through an injury to his knee, until just before half-time, when Sandhurst succeeded in scoring.

During the second half, handicapped by want of training and the loss of Burrows, which necessitated the weakening of the scrum, we were outmatched, and Sandhurst scored repeatedly.

Team.—H. Bond (back); J. W. Nunn, A. Hawkins, F. E. Everington, C. A. S. Ridout (three quarters); H. Burrows, G. C. Marrack (half); P. O. Andrew (captain), H. M. Cruddas, W. F. Bennett, F. G. Richards, A. J. W. Wells, A. L. Ormerod, J. W. Hughes, W. M. James (forwards).

On October 20th the first fifteen met Ealing on our own ground. In the first half of the game the Hospital had slightly the best of it. Richards scored the first try from a scramble on the Ealing line. Bond took the kick, but failed to convert. Soon after, Cornish gaining possession of the ball, after a fine run, placed it between the visitors' posts; Bennett took the kick, and scored a goal. In the second half our men had matters all their own way. Cornish scored a second try, which Bond converted. Tries were also obtained by Andrew, Dunn, and Bennett. Result: 2 goals 4 tries (twenty-two points) to *nil.*

Team.—H. Bond (back); J. W. Nunn, C. A. S. Ridout, A. J. W. Wells, C. V. Cornish (three quarters); G. C. Marrack, A. Hawkins (half); P. O. Andrew (capt.), H. M. Cruddas, W. F. Bennett, F. G. Richards, J. C. S. Dunn, A. L. Ormerod, J. W. Hughes, W. J. Codrington (forwards).

SECOND FIFTEEN MATCHES.

On October 6th the second fifteen played the Civil Service second fifteen at Richmond. The game was fairly even during the first half, but during the second half the Hospital had much the best of it. Tries were obtained by Mason and Stack. Martin took the kicks, and converted one of them into a goal. Result: 1 goal 1 try (eight points) to nil.

Team.—S. F. Smith (back); E. G. Simmonds, T. Martin (captain), S. Mason (three quarters); A. Pain, H. Davis (half); E. H. Stack, W. M. McDonald, H. Weeks, F. V. Beit, A. Vaughan, G. C. Cathcart, I. C. Lewis, J. Perks (forwards).

On October 13th the second fifteen played the Middlesex Wanderers second fifteen at Richmond.

The game was at first well contested, but the loss of two outsides prevented the Hospital from averting defeat.

Twenty minutes after the start Smith was obliged to retire, and later on an injury to his shoulder placed Beath *hors de combat.* Weekes was also hurt, but was able to continue the game.

Result.—Middlesex Wanderers, two goals three tries (nineteen points); Bart.'s 0.

Team.—S. F. Smith (back); D. L. Beath, T. Martin (captain), E. G. Simmonds, S. Mason (three quarters); M. A. Cholmeley, H. Davis (half); W. J. Codrington, H. Weeks, W. M. McDonald, F. V. Beit, A. Vaughan, A. B. Brown, J. Cathcart, J. Perks (forwards).

On October 20th the second fifteen played the London County Council.

The game was a very one-sided affair, the Hospital winning by four goals (two dropped) and four tries to *nil.*

Dropped goals by Goodman and Simmonds.

Tries by Simmonds (3); Vaughan (2); Cholmeley (1).

Team.—H. Goodman (back); H. Dalzell, T. Martin (captain), E. G. Simmonds, H. Winkfield (three quarters); M. A. Cholmeley, H. Davis (half); W. M. McDonald, A. Pain, A. Vaughan, G. C. Cathcart, J. Perks, I. C. Lewis, H. S. Beadles, H. M. James (forwards).

On October 24th the second fifteen played University College School on our ground. This game also proved very one-sided, the Hospital winning by 5 goals and 3 tries (thirty-four points) to *nil.* Tries by Mason (3), Martin (1), Ormerod (1), Vaughan (1), Calverley (1), Stack (1). Martin kicked 4 goals; Pain 1 goal.

Team.—H. Goodman (back); S. Mason, T. Martin (captain), G. C. Marrack (three quarters); J. E. G. Calverley, H. Davis (half); J. C. S. Dunn, A. L. Ormerod, H. Weeks, W. M. McDonald, E. H. Stack, A. Pain, A. B. Brown, A. Vaughan, G. C. Cathcart (forwards).

OTHER MATCHES.

First fifteen *v.* Marlborough Nomads. Lost. 1 goal (and 1 dropped) to 1 try.

First fifteen *v.* R. N. C., Greenwich. Won. 1 goal 1 try to *nil.*

Second fifteen *v.* Hongkong and Shanghai Bank. Won. 1 goal and 1 try to *nil.*

Reports of these matches will appear in the next issue.

ASSOCIATION FOOTBALL CLUB.

UP to the present we have not done quite so well as we hoped. Our victory over West Kent at Chislehurst was very creditable, the whole team keeping well together and playing up hard all through. We hoped also to beat Harrow Athletic and Crouch End, but on those occasions the ground was very wet and heavy, and the combination was not over-good. Casuals scratched their match with us on Thursday, October 25th, not being able to raise a team.

The second team have been doing very well, and have only lost one match, their record up to date being 31 goals "for" and 11 "against."

Saturday, Oct. 6th.—ST. BARTHOLOMEW'S HOSPITAL *v.* WEST KENT.

This match was played at Chislehurst, and although there had been a good deal of rain, yet the ground, being high up, was in very good condition. Some delay was caused before starting by the West Kent men not being ready, but about half-past three West Kent kicked off, playing uphill first. The game was of a very even character; if anything we had slightly the best of the game from the start. In the first half Fernie scored a goal, the West Kent team not scoring. In the second half West Kent pulled up a bit, but although they had the advantage of the slight hill they only scored once, while we scored two more goals—one by Fernie and another from a splendid shot from the left wing by Woodbridge, thus winning by three goals to one.

Team.—E. H. B. Fox, goal; R. P. Brown, C. H. Norrington, backs; T. Dawson, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; L. E. Whitaker, centre; J. F. Fernie (capt.), E. W. Woodbridge, left wing. Linesman, Mr. C. H. Hopkins.

Saturday, Oct. 13th.—ST. BARTHOLOMEW'S HOSPITAL *v.* HARROW ATHLETIC.

Before a fair number of spectators and on a very heavy ground this match was played at Harrow. The game was not very exciting, neither team seeming to show very good combination. We had the best of it at the start, but after some give-and-take play the Harrow Athletic outside right put in a difficult shot which Fryer was unable to save. Still we had the advantage, and Fernie scored just before half-time, thus leaving the game, at that time, one goal all. In the second half the play was of a more even character, and some good runs were made by our forwards, but we were unable to score. Harrow scored another goal about a quarter of an hour after play commenced again, and although we tried hard to equalise nothing more was scored, and we had to retire defeated by two goals to one.

Team.—E. H. Fryer, goal; R. P. Brown, C. H. Norrington, backs; W. E. Graham, C. C. Costin, H. J. Pickering, half-backs; A. Hay, G. A. Spear, right wing; L. E. Whitaker, centre; J. F. Fernie (capt.), E. W. Woodbridge, left wing. Linesman, Mr. C. H. Hopkins.

Wednesday, Oct. 17th.—ST. BARTHOLOMEW'S HOSPITAL *v.* GRAVESEND UNITED.

Played at Gravesend before a good crowd of spectators. The game was very fast, and soon after the start Stone scored for Bart.'s. Gravesend now played up, and after several corners had been taken they equalised from a very smart shot by their centre from a pass by the outside right. Both sides now tried hard to get the lead, and Bart.'s, after playing a very hard game, scored again, from a shot by Powell at half-back. Nothing more was scored, and at half-time we were leading by two goals to one. In the second half Gravesend had the best of it, and we had to play a defensive game; but although they kept having shots, Fox, who had been playing splendidly, only let the ball go through once, and the game ended in a draw—two goals each.

Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; J. C. Powell, C. C. Costin, H. J. Pickering, half-backs; A. Hay, G. W. Stone, right wing; G. A. Spear, centre; J. F. Fernie (capt.), E. W. Woodbridge, left wing.

Saturday, Oct. 20th.—ST. BARTHOLOMEW'S HOSPITAL *v.* CROUCH END.

This was played at Hornsey, the ground, owing to heavy rain, being very slippery. Play was of a very loose character, and in the first half Crouch End scored a goal, Bart.'s not being able to score. Wilkins, one of the Crouch End backs, had to retire before half-time, his collar-bone having been accidentally broken by a charge from one of our men. In the second half we had the advantage of the hill and played up better, but the ball being very slippery shooting was rather difficult. A corner fell to Bart.'s, and from a well-placed kick Fernie headed the ball through the posts and equalised. Soon afterwards, however, Crouch End scored again, and maintaining their lead till time was called, won by two goals to one.

Team.—E. H. Fryer, goal; R. P. Brown, L. E. Whitaker, backs; W. H. Pope, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; G. A. Spear, centre; J. F. Fernie (captain), E. W. Woodbridge, left wing. Linesman, Mr. C. H. Hopkins.

Saturday, Oct. 27th.—ST. BARTHOLOMEW'S HOSPITAL *v.* BARNES F. C.

Played at Barnes in very wet weather. The high wind prevented the ball from being kicked very accurately, but our men played very well together and gained a decided and well-earned victory. In the first half, playing with the wind, we scored three goals, Barnes not scoring and only very seldom getting near our goal. Playing against the wind during the second half, our forwards were better able to keep the ball close at their feet, but only scored two more goals, although the ball was only once or twice got into our territory by the Barnes forwards. The game resulted in a victory for Bart.'s by five goals to *nil.*

Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; J. C. Marshall, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; G. A. Spear, centre; J. F. Fernie, E. W. Woodbridge, left wing.

Wednesday, Oct. 31st.—ST. BARTHOLOMEW'S HOSPITAL *v.* R. M. A., WOOLWICH.

In spite of the wind we had a fast game with R. M. A. at Woolwich. During the first half Bart.'s played with the wind and Fernie scored two goals, whilst the home team only obtained one, which went in off Whitaker during a scrum in front of the goal. In the second half the Woolwich forwards found the wind an advantage to them, and their wings made some good runs, but nothing was scored by them. Towards the end Bart.'s pulled up again, and obtaining a corner, Pickering placed the ball splendidly in the mouth of the goal, and it was put through. Nothing more was scored, and when time was called Bart.'s were victorious by three goals to one. The R. M. A. men kindly entertained the Bart.'s team to tea after the match.

Team.—E. H. B. Fox, goal; R. P. Brown, L. E. Whitaker, backs; J. C. Marshall, C. C. Costin, H. J. Pickering, half-backs; A. Hay, C. A. Robinson, right wing; J. F. Fernie, centre; E. H. Fryer, E. W. Woodbridge, left wing. Linesman, Mr. C. Price.

RESULTS FOR OCTOBER.

			Goals. *For.*	*Agst.*
Sat., Oct. 6.—West Kent	at Chislehurst		3	1
Wed., „ 10.—Trial game	„ Edmonton			
Sat., „ 13.—Harrow Athletic	„ Harrow		2	3
Wed., „ 17.—Gravesend United	„ Gravesend		2	2
Sat., „ 20.—Crouch End	„ Hornsey		1	2
Thrs., „ 25.—Casuals	„ Leyton		Scratched.	
Sat., „ 27.—Barnes	„ Barnes		5	0
Wed., „ 31.—R.M.A.	„ Woolwich		3	1

We would again ask men to cross their names as soon as possible after the lists are put up, as it saves the secretaries a great deal of trouble looking for men at the last moment.

Abernethian Society.

THE Society opened the Session, which, as everyone knows, is the Centenary Session, in a way suited to a Society which claims seniority to every other Medical Society in London.

We give the Inaugural Address, delivered by Sir James Paget, *in extenso.* The address was delivered in the Anatomical Theatre on Thursday, October 11th; the theatre was crowded. The Nursing Staff was well represented, and there were present many members of the Senior Staff, both Medical and Surgical, several of whom brought lady visitors.

The chair was taken by the President, Mr. E. W. Cross, who in his opening remarks explained the importance of the occasion; and, in calling upon Sir James to deliver the address, said, amidst great applause, that there was no occasion to "introduce" Sir James to Bart.'s men.

At the conclusion of the address a vote of thanks was proposed by Mr. Marsh, and seconded by Mr. Bowlby, both of whom were received with enthusiastic applause, and the vote of thanks was carried with an acclamation that was positively deafening.

Sir James Paget (who had delivered the address without the aid of notes), in thanking the Society for the vote of thanks, said that he had promised to write out his address for the JOURNAL; this he has since done, and we take this opportunity of expressing our sincere thanks for his kindness in so doing.

St. Bart.'s Amateur Dramatic Club.

THE Annual General Meeting of the Hospital Dramatic Club was held on Friday, October 12th, at Mr. Cross's house, Mr. Cross as President of the Club being in the Chair, when the following gentlemen were elected as officers of the Club:

Stage Manager, Mr. J. Boyan.
Assistant Stage Manager, Mr. G. H. Forman.
Acting Manager, Mr. F. J. Clowes.
Committee: Mr. A. W. C. Lindsay. Mr. Thorne-Thorne. Mr. J. C. Powell.

Any gentlemen wishing to join this Club are requested to send in their names to the Stage Manager, Acting Manager, or one of the Committee, when they will be duly proposed for election.

The attention of first and second years' men is especially drawn to this notice, as it is desirable that members should be able to remain in the Club for some considerable period.

St. Bartholomew's Hospital Smoking Concert Club.

THE First Concert of the Season 1894–5 was held in the French Room of St. James's Restaurant on Saturday, October 27th.

In the regrettable absence of Mr. P. Furnivall the chair was ably filled by Mr. P. W. G. Shelley, a vice-chairman of the Club.

A capital programme, in which the humorous and sentimental were well balanced, had been arranged by Messrs. D. L. E. Bolton and C. E. Hogan (Hon. Secs.).

Mr. Collingwood Banks made an admirable accompanyist, his pianoforte solos being also much appreciated.

The first portion of the programme was opened by Mr. Cathcart Bird, who sang "On the Goodwins," and was obliged to give an encore.

Mr. Forman then played a solo on the banjo, and met with a flattering reception.

An old favourite of the Club, Mr. Dick Welch, gave "Jones' Wedding," and in response to a vociferous recall dilated on the charms of "Our Happy Little Home."

Special mention must be made of the songs rendered by Mr. R. F. Standage, whose magnificent voice was heard to much advantage in "My Dreams" and "The Yeoman's Wedding" (encore).

Mr. J. K. Birdseye, whose unique style is too well known to need any praise, sang "I did laugh!" This proved so contagious that he responded to a hearty encore.

In the second part of the programme Messrs. D. Welch, R. F. Standage, and Cathcart Bird again contributed songs.

Mr. Cecil Mount, who has a quiet subtle charm in his recitations, was very well received in "The Goddess Nicotine" and "The Coster's Conversion," an encore being insisted on in each case.

The hit of the evening was undoubtedly made by the well-known comedian, Mr. Frank Lane, who sang "That's his girl," and was twice recalled.

Mr. Ernest C. Fincham, apologising for being a tenor and thus perforce compelled to sing a sentimental song, gave "Annabelle Lee," and in response to an encore "Come into the garden, Maud."

Another old favourite of the Club, Mr. R. Parker, sang "Gipsy John."

Mention must be made of Mr. A. S. Lawrence, who detailed the pleasures of the "The Meynell Hunt." Mr. Harold Coulter scored a great success with "Tommy Atkins," the chorus being well taken up by the audience.

A musical sketch, "A Peculiar Party," by Mr. Edward Kent, created much merriment, the solo in which the airs of "The Maiden's Prayer" and "The man that broke the bank at Monte Carlo" were blended being especially clever.

A thoroughly enjoyable evening was terminated by singing "God save the Queen" and "Auld Lang Syne." Amongst those present we noticed Dr. Andrewes, and Messrs. W. J. Walsham, R. Gill, H. J. Waring, H. Morrison, E. C. Frend, E. W. Cross, and J. Belben.

This concert was not, however, so well attended as we should have liked, and compared badly in that respect with some of the crowded concerts of last season. We hope, however, that this defect will be remedied in the future.

The Second Concert of the season will be held on November 17th, and the Third Concert on December 8th, in the French Room, St. James's Restaurant, W.C. Members' tickets to admit members and *one* friend to all concerts during the season can be obtained from the Hon. Secs., Messrs. D. L. E. Bolton and C. E. Hogan, price 5s. Single admission tickets 1s.

St. Bartholomew's Hospital Photographic Society.

AT the Annual General Meeting of the Photographic Society, held on October 12th, the following officers were elected for the ensuing year:—*President,* Dr. Russell; *Vice-Presidents,* Dr. Lewis Jones and Mr. Womack; *Committee,* Mr. Crace-Calvert, Mr. Coleman, and Mr. Gill; *Secretaries,* Mr. Hussey and Mr. Pearson.

The report for the past year is of a very satisfactory nature. The chief points of interest in it are the increase in number of members, which is now greater than at any time, the increase in the work done by members during the year, and in the use to which the Society's dark room has been put. Over three hundred plates have been developed in it during the year.

The Second Annual Exhibition of the Society took place on Friday evening, October 26th, the object being to afford members and friends an opportunity of inspecting prints of plates exposed during the summer vacation. These were "on view" in the Smoking Room, and included, besides examples of the ordinary silver print, several in bromide, platinotype, and carbon. As great diversity was shown in size as in style, the pictures varying from the diminutive "quarter-plate" to enlargements measuring 18 × 10 in. The following members were represented among the exhibits:—Dr. Russell (President), silver prints of views in Devon; Dr. Lewis Jones and Mr. Womack (Vice-Presidents), bromide enlargements and silver prints; Dr. Tooth, portfolio of enlargements from "snap-shots" taken in Norway; Messrs. Amsden, Attlee, Brittain, Calvert, Clarke, Coleman, Compton, Harvey, Hepburn, Horder, Hussey, J. L. Maxwell, J. P. Maxwell, Pearson, Rhodes, and Thornley. These included views from the Alps, Brittany, Scotland, Wales, the Lakes, &c. Mr. Fincham, well known in the amateur photographic world, exhibited several pictures, two of which, "In Irish Waters" (carbon print) and "A Brown Study" (bromide), have been shown in Pall Mall and at New York. Several specimens of the Society's work for the Museum during the past year were also to be seen. The second feature of the exhibition consisted of lantern slides, which were thrown on to the screen in the Anatomical Theatre. Dr. Lewis Jones showed a set of slides illustrating paralyses of the upper arm, besides landscapes and seascapes. Messrs. Calvert, Fincham, Harvey, Maxwell, and Pearson also contributed to this part of the programme. Altogether some 300 photographs were shown, and 150 lantern slides. The attendance was an improvement upon last year, there being fifty present. The Society was greatly indebted to the Committee of the School for the use of the school lantern and of the Anatomical Theatre and Smoking Room.

St. Bartholomew's Hospital Christian Association.

A MEETING is held every Thursday in the Inquest Room. Tea and coffee at 4.45 p.m. Address at 5 p.m.

A Prayer Meeting is held every day in the vestry of the church from 1 to 1.10 p.m.

List of addresses:

Nov. 1st.—Rev. C. H. Waller, D.D.
" 8th.—Inter-Hospital Meeting.
" 15th.—Rev. G. Connell, M.A.
" 22nd.—Rev. J. Stuart Fox.
" 29th.—Rev. J. A. Bevan, M.A.

Obiter Dicta.

BOTH ascites and enlargement of the spleen are very common symptoms of cirrhosis of the liver. The explanation that most readily offers itself is that the portal vein is obstructed by the process. Yet this condition, taken by itself, does not explain those cases of cirrhosis, not very uncommon, wherein enlargement of the spleen occurs without ascites. Nor, again, does it explain that other very common symptom, venous stigmata—dilated veins, usually seen upon the face, but sometimes much more widely spread, —nor yet the epistaxis which is often met with.—DR. GEE.

Loss of knee-jerks is not only common at the end of diabetes, but is useful as a bad sign for prognosis. Those patients, usually busy, middle-aged people, who pass a considerable quantity of sugar for many years without serious loss of health, do not lose their knee-jerks.—SIR DYCE DUCKWORTH.

Clinical Sketch.

By W. P. HERRINGHAM, M.D., F.R.C.P.,
Medical Registrar.

THE following case illustrates the diagnosis between hydrocephalus and tumour with secondary distension of ventricles.

M. C—, a boy of 2 (Luke, Dr. Gee). He began to ail eight months ago, and gradually became unable to walk, unable to see, and unable to speak. The head enlarged and the child diminished. He had had no convulsions, but for three days had vomited.

February 19th.—Admitted. He had double internal squint, optic atrophy, and universal paralysis. The head was very large, measuring sagittally from the root of the nose to the occipital protuberance 14½ inches. The base line between the two points was 4½ inches. At the same time the shape was not cyclo-cephalic (Gee, *St. Bart.'s Hosp. Rep.*, vol. vii, p. 1; also *Lancet*, for September 18th, 1880), and the orbits were not displaced. Dr. Gee pointed out that in the most usual form of hydrocephalus (which is either congenital or else comes on during the first few months of life) the cranial cavity tends to become globular from equal pressure in all directions of the fluid, and that in consequence the roof of the orbits descends, producing the peculiar distortion seen in these cases. From the absence of this globular character in the present instance he concluded it was not a case of ordinary hydrocephalus, and inferred from the optic atrophy, paralysis, and other cerebral symptoms some cerebral tumour, probably tubercular. The double internal squint pointed to the pons Varolii as the site of the tumour.

P.M.—A tubercular tumour was found in the pons Varolii which had caused secondary distension of the ventricles.

Pass Lists at Examinations.

Primary L.S.A.

Anatomy.—H. M. Waller, T. B. Cautley.
Physiology.—F. R. Greenwood, T. B. Cautley.

First Conjoint.

Chemistry and Physics.—H. W. Illius, C. G. Meade, W. C. B. Smith, and G. W. S. Williams.
Practical Pharmacy.—W. F. Bennett, E. N. Berryman, F. R. Brooks, E. B. Stevenson.
Elementary Biology.—H. F. Sitwell.
Bones.—J. P. Allen, H. F. Sitwell, T. H. Talbot.
Materia Medica and Pharmacy (*old regulations*).—D. L. Beath, J. Boyan, H. J. Hunter.

Second Conjoint (*Old Regulations*).

Anatomy.—G. R. Baker, W. L. Burn, W. H. Crossley, G. S Haynes, B. E. Laurence, H. G. McKinney, C. H. R. Provis, S. Roach, A. O. Way, E. W. Woodbridge.
Physiology.—G. R. Baker, H. C. Harrison, T. B. Jones, C. H. R. Provis.

Second Conjoint (*New Regulations*).

H. W. Henshaw, C. W. Mainprise, A. F. Page, E. F. Palgrave, C. F. Winkfield, P. Wood.

R. D. Dalal, who has been an occasional student at "Bart.'s" since May, and was formerly a student of the University of Bombay, has passed the Second Conjoint Examination in Anatomy and Physiology.

Final Conjoint.

The following Bart.'s men have been admitted to the diplomas of M.R.C.S. and L.R.C.P., viz.:—A. Armer, A. L. Breen, D. D. Brown, J. E. G. Calverley, J. Carter, A. H. Clarke, F. Clarke, A. W. R. Cochrane, W. E. Collier, F. W. Crossman, J. Currie, C. H. Drake, E. H. Drew, V. Howard, P. Lambert, G. J. R. Lowe, A. H. Morris, E. W. Ormerod, A. Pain, A. L. Saunders, W. H. Symons, M. R. Taylor, and E. P. Turner.

Appointments.

MR. L. W. BATHURST, M.B.(Lond.), M.R.C.S., L.R.C.P., to be Assistant Medical Officer to the London County Asylum, Hanwell.

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MR. R. HENSLOWE WELLINGTON, M.R.C.S., L.R.C.P., to be Medical Officer of Health to the Sutton Bridge Urban Sanitary Authority and Medical Officer to the Port of Wisbech and Port Hospital.

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MR. CYRIL R. CRAWFORD, M.R.C.S., L.R.C.P., to be House Physician to the Sussex County Hospital.

* * *

MR. A. G. EWBANK, M.R.C.S., L.R.C.P., to be House Physician to the Metropolitan Hospital.

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MR. H. B. MEAKIN, M.R.C.S., L.R.C.P., to be Senior House Surgeon to the Metropolitan Hospital.

WAR OFFICE.

SURGEON-MAJOR WALTER GEORGE AUGUSTUS BEDFORD M.B.Durh., M.R.C.S.Eng., Army Medical Staff, appointed Staff Officer, Medical Staff Corps, at Head-quarters. Surgeon-Major Bedford previously held for some time the important appointment of Adjutant at the Depôt and Training School of the Medical Staff Corps, Aldershot.

Cases of Special Interest.

SURGICAL.

Kenton 5, swelling in thigh.
Colston 24, hæmophilia.
Abernethy 17, paralysis of several cranial nerves.

MEDICAL.

Hope, No. 3, F., 47, new growth of lung.
Mark, No. 11, M., 13, proptosis with paralysis of the spinal accessory nerve.
Luke, No. 1, M., 14, peripheral neuritis.
Matthew, No. 24, M., 39, scleroderma.

Births.

VERRALL.—Oct. 10, at 97, Montpellier-road, Brighton, the wife of T. Jenner Verrall, M.R.C.S., L.R.C.P., of a daughter.
HAMER.—Oct. 14, at 71, Dartmouth-park-hill, N.W., the wife of Dr. W. Heaton Hamer, of a daughter.
WOOLDRIDGE.—Nov. 6, at Harbertonford, near Totnes, S. Devon, the wife of A. T. Wooldridge, L.R.C.P., M.R.C.S., of a son.

Marriages.

JESSOP—FURLONGER.—Oct. 15, at St. Andrew's, Ashley Place, by the Rev. A. B. Buckland, M.A., Walter Hamilton Hylton Jessop, M.A., M.B., F.R.C.S., of 73, Harley-street, W., to Florence, youngest daughter of the late Charles J. Furlonger, of 62, Cornwall-gardens, S.W.
MILLER—EASTON.—Oct. 25, at St. Margaret's, Rochester, by the Rev. A. J. W. Thorndike, John Miller, M.R.C.S., L.R.C.P., eldest son of the late Henry Miller, Uplands, Ipswich, to Sarah Rogers, youngest daughter of the late Nathaniel Jonas Easton, of Plymouth.

Death.

SMART.—Nov. 5, at Cranborne, Dorset, Thomas William Wake Smart, M.R.C.P., in his eighty-ninth year.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette. St. Thomas's Hospital Gazette. St. George's Hospital Gazette. London Hospital Gazette. The Student* (*Edinburgh*). *Medical Nursing*, by the late James Anderson, M.D., F.R.C.P., edited by Ethel F. Lamport (cr. 8vo, H. K. Lewis, price 2*s.* 6*d*). *Theory and Practice of Medicine*, by F. T. Roberts, M.D., F.R.C.P., ninth edition (H. K. Lewis, price 21*s.*).